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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/823,675

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Q80547

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EXAMINER

NEGRON, DANIEL L

ART UNIT

PAPER NUMBER

2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/29/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/823,675

Applicant(s)

NAKAO ET AL.

Examiner

Daniell L. Negrón

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-8,10-22 and 24-31 is/are rejected.
- 7) ☒ Claim(s) 4, 9, and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Request for Continued Examination*

1. Examiner acknowledges the request for continued examination (RCE) filed on February 12, 2007

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 6, 7, 11-13, 22, 25, 26, and 29-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Bui et al U.S. Patent No. 6,937,413.

Regarding claims 1, Bui et al disclose a magnetic tape comprising a plurality of servo bands (131-134) on each of which is written a different servo signal (136-139) for tracking control of a magnetic head and data is embedded in each servo signal for specifying the servo band corresponding to the data, wherein reading the data enables a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands (column 7, line 57 through column 8, line 12).

Regarding claim 2, Bui et al disclose a magnetic tape wherein the servo signal consists of a plurality of continuous pattern sets each of which pattern is nonparallel stripes and the data is embedded in the servo signal by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape (column 7, line 65 through column 8, line 5).

Regarding claim, claim 12 has limitations similar to those treated in the above rejection of claim 1, and are met by the reference as discussed above.

Regarding claim 13, Bui et al disclose an apparatus wherein specifying the servo band is carried out by reading only one servo band (column 11, lines 37-40).

Regarding claims 6, 7, and 11, method claims 6, 7, and 11 are drawn to the method of using the corresponding apparatus claimed in claims 1, 2, 12, and 13. Therefore method claims 6, 7, and 11 correspond to apparatus claims 1, 2, 12, and 13 and are rejected for the same reasons of anticipation as used above.

Regarding claim 22, Bui et al disclose a magnetic tape wherein specifying the servo band is for accurate tracing of a magnetic head position, and is carried out on a single servo band (column 2, line 63 through column 3, line 12).

Regarding claim 25, Bui et al disclose a magnetic tape wherein a plurality of servo bands are arranged along the width of the magnetic tape (Fig. 6), and a position of one servo band along the width of the magnetic tape can be specified from the data written on this one servo band (column 3, lines 25-30).

Regarding claim 26, Bui et al disclose a magnetic tape wherein different data is written on each of the plurality of servo bands (Fig. 6 and disclosure thereof).

Regarding claim 29, Bui et al disclose a magnetic tape wherein the data is written as a part of manufacture information (column 5, lines 42-51).

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Regarding claim 30, method claims 30 are drawn to the method of using the corresponding apparatus claimed in claims 29. Therefore method claim 30 corresponds to apparatus claim 29 and is rejected for the same reasons of anticipation as used above.

Regarding claim 31, claim 31 has limitations similar to those treated in the above rejection of claim 29, and are met by the reference as discussed above.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bui et al U.S. Patent No. 6,937,413 in view of Cates et al U.S. Patent No. 5,963,400.

Regarding claim 5, Bui et al disclose a magnetic tape comprising all the limitations of claim 1 as discussed above, but fail to explicitly disclose the tape wherein the servo bands are previously DC erased. However, Cates et al disclose a magnetic tape comprising servo bands wherein the servo bands are previously DC erased for the purpose of recording multiple servo bands (column 3, lines 51-67). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the magnetic tape disclosed by Bui et al with the DC erased servo bands disclosed by Cates et al in order to allow effective recording of multiple servo bands.

Regarding claim 10, method claim 10 is drawn to the method of using the corresponding

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apparatus claimed in claim 5. Therefore method claim 10 corresponds to apparatus claim 5 and is rejected for the same reasons of obviousness as used above.

6. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bui et al U.S. Patent No. 6,937,413 in view of Murphy et al U.S. Patent No. 6,433,949.

Regarding claims 14-16, Bui et al disclose a magnetic tape comprising all the limitations of claim 1 as discussed above, but fail to explicitly disclose the specifics of a method of recording servo bands as claimed. However, Murphy et al teach the encoding of the servo bands (column 4, lines 21-29) and a pulse width bias with which servo data is recorded (column 4, lines 30-54). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to combine the disclosure of a magnetic tape of Bui et al with the method disclosed by Murphy et al in order to effectively record servo bands.

7. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bui et al U.S. Patent No. 6,937,413 in view of Fasen et al U.S. Patent No. 6,031,673.

Regarding claims 17-19, Bui et al disclose a magnetic tape comprising all the limitations of claims 1-3 as discussed above. Bui et al further disclose a magnetic tape mechanism comprising running mechanism and servo write head (Fig. 3 and disclosure thereof) and a controller (810), but fail to explicitly disclose a pulse generation circuit. However Fasen et al disclose a servo write head (Fig. 4) which utilizes pulses for the purpose of recording and registering defects in recorded servo signals (column 2, lines 57 through column 3, lines 22). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to combine the magnetic tape of Bui et al with the pulse generation circuit disclosed by Fasen et al in order to record servo bands on a magnetic tape.

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8. Claims 3, 8, 20, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bui et al U.S. Patent No. 6,937,413 in view of Hennecken et al U.S. Patent No. 6,710,967.

Regarding claim 20, Bui et al disclose a magnetic tape comprising all the limitations of claim 1 as discussed above, but fail to explicitly disclose a magnetic tape wherein the servo signal consists of a plurality of continuous pattern sets each of which pattern is nonparallel stripes, and the data is embedded in the servo signal by varying the thickness of the stripes. However, Hennecken et al disclose servo bands comprising nonparallel stripes with varying thickness for the purpose of embedding data (column 2, lines 26-43 and column 6, lines 9-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to combine the magnetic tape of Bui et al with the variable stripe width disclosed by Hennecken et al in order to provide additional information in each servo band.

Regarding claims 3 and 27, claims 3 and 27 have limitations similar to those treated in the above rejection of claim 20, and are met by the references as discussed above.

Regarding claims 8 and 28, method claims 8 and 28 is drawn to the method of using the corresponding apparatus claimed in claim 20. Therefore method claim 28 corresponds to apparatus claim 20 and is rejected for the same reasons of obviousness as used above.

9. Claims 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bui et al U.S. Patent No. 6,937,413 in view of Kosuge U.S. Patent No. 5,353,176.

Regarding claims 21 and 24, Bui et al disclose an apparatus for specifying a servo band from a plurality of servo bands formed on a magnetic tape comprising all the limitations of claim 12 as discussed above, but fail to explicitly disclose the apparatus further comprising a reserve servo read head for use if the servo read head malfunctions. However, Kosuge discloses a

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reserve servo read head provided in one head unit utilized for the purpose of rereading servo data when an error has been detected (column 3, line 58 through column 4, line 5). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to combine the apparatus disclosed by Bui et al with reserve servo read head disclosed by Kosuge in order to reproduce servo data properly without occurrence of an error.

***Allowable Subject Matter***

10. Claims 4, 9, and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

11. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new grounds of rejection.

***Prior Art***

Mantey et al U.S. Patent No. 5,898,533 is cited as of interest for disclosure of magnetic tape servo bands comprising individual band identifying patterns.

***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniell L. Negrón whose telephone number is 571-272-7559. The examiner can normally be reached on Monday-Friday (8:30am-5:00pm).

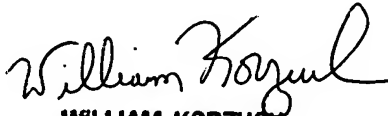
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DLN   
March 26, 2007

  
**WILLIAM KORZUCH**  
**SUPERVISORY PATENT EXAMINER**  
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